APPENDIX G

BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

GPA 04-06; SP 04-006; R04-013; VTM5381; S04-035, S04-036, S04-037, S04-038; Log No. 04-08-028; SCH No. 2004091166

for the

RECIRCULATED ENVIRONMENTAL IMPACT REPORT

March 2009

Note: Comments will be accepted on the entire appendix.

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January 15, 2009 3877-01

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Subject: ***Biological Resources Technical Memorandum for the Merriam Mountains Specific Plan and the General Plan Amendment/Circulation Element, San Diego County, California***

To Whom It May Concern:

This biological resources technical memorandum has been prepared to provide supplemental information regarding the change in impacts to biological resources associated with a revised alignment along Deer Springs Road, as well as additional improvement areas associated with the Merriam Mountains Specific Plan project that were not previously analyzed in the August 2007 Merriam Mountains Specific Plan Draft Environmental Impact Report (DEIR). A Biological Technical Report (June 2007), Resource Protection Study (June 2007), Resource Protection Plan (May 2007), and Conceptual Uplands and Wetlands Revegetation Plans (May 2007), were included in the August 2007 DEIR to evaluate the potential impacts to biological resources, long-term management of biological resources placed in a Biological Open Space and mitigation requirements for impacts to sensitive vegetation communities. The following supplement has been prepared to address a revised design and alignment for Deer Springs Road and additional offsite improvements that have been identified since the DEIR was distributed for public review. The following supplement supersedes the previous biological resources analysis that was completed for in the DEIR and applicable technical studies as noted above.

It also addresses improvements to Deer Springs Road that would occur as a result of the General Plan Amendment/Circulation Element (GPA/CE). The Merriam Mountains Specific Plan project (Merriam) consists of approximately 2,327 acres located within the Merriam Mountains of northern San Diego County west of Interstate 15 (I-15) (see Figures 1 and 2). The memorandum includes a description of the improvement areas, habitats and vegetation communities located within the improvement areas, potential special-status species, anticipated project impacts, significance of project impacts, and proposed mitigation. In addition, a description of survey methods used to prepare this report is included.

significance of project impacts, and proposed mitigation. In addition, a description of survey methods used to prepare this report is included.

This memorandum is intended to act as a supplement to the 2007 Biological Technical Report prepared by PSBS; information contained within the Biological Technical Report that is relevant to this analysis is referenced as appropriate.

INTRODUCTION

Merriam Mountains Specific Plan Improvements

Several improvement areas associated with the Merriam Mountains Specific Plan project were not previously analyzed in the Biological Technical Report (PSBS 2007). These improvement areas include the following:

- Equestrian staging area and Twin Oaks Valley Road frontage improvements
- Off-site Camino Mayor improvements
- Deer Springs Road/I-15 interchange improvements
- Deer Springs Road revised alignment
- Twin Oaks Valley Road widening between Buena Creek Road and 1,000 feet south of the Cassou Road/Twin Oaks Valley Road intersection
- Off-site wastewater upgrade near Twin Oaks Valley Road.

Five of these improvements are located off site, while one (the equestrian staging area and Twin Oaks Valley Road frontage improvements) is located on site. Figure 2 indicates the location of each improvement area. A brief description of each area is included below.

Equestrian Staging Area and Twin Oaks Valley Road Frontage Improvements

The equestrian staging area will be located in the northern portion of the project site, east of and adjacent to Twin Oaks Valley Road. The staging area will include approximately 1.3 acres of improvements, which include parking and a turn-around for horse trailers, fuel modification, and a trail connection. Frontage improvements will be completed along Twin Oaks Valley Road within the limits of the project boundaries consistent with the subdivision map ordinance. The frontage improvements will include 7.5 acres of disturbance. Existing conditions are discussed in the 2007 Biological Technical Report (PSBS 2007).

Camino Mayor Improvement Area

Camino Mayor will be improved to provide a paved secondary emergency gated-access roadway within the existing 40-foot easement. The roadway will be improved from the western project limits to Twin Oaks Valley Road using the existing alignment and widening the road to accommodate emergency vehicles.

Deer Springs Road/I-15 Interchange

Potential ground disturbance impacts from improvements to the Deer Springs Road/I-15 interchange configuration determined in the Project Study Report (PSR) may be evaluated in a separate environmental document, under Caltrans oversight. Preliminary PSR traffic volumes have determined that the approximate "worst-case" (largest potential footprint) interchange configuration would be a partial cloverleaf with loop ramps in the southeast and northwest quadrants. While the worst-case design is not an approved design because the PSR has not yet been approved, it has been used in this analysis to evaluate the maximum potential impact associated with the improvements of this interchange.

Revised alignment for Deer Springs Road

Upon approval of the Merriam Mountains Specific Plan, Deer Springs Road would be constructed to a four-lane roadway between Twin Oaks Valley Road and the I-15 interchange as part of required off-site improvements. The roadway would be constructed to six lanes as part of the required frontage improvements where Deer Springs Road intersects the Merriam Mountains project limits at the eastern edge of the project. Off-site improvements required along Deer Springs Road are located in areas adjacent to a variety of land uses, which include residential uses, a health spa, and agricultural uses. The southerly limits of improvements are located within an urbanized area within the City of San Marcos.

Twin Oaks Valley Road Widening

Twin Oaks Valley Road would be widened to a four-lane roadway from the intersection with Buena Creek Road to 1,000 feet south of the Cassou Road intersection. These improvements would take place within the City of San Marcos.

Off-Site Wastewater Upgrade Near Twin Oaks Valley Road

An 800-foot pipeline segment would require upsizing from the existing 18-inch line to a 21-inch line. This segment is located north of East Mission Road between Twin Oaks Valley Road and Vineyard Road within the City of San Marcos. The existing sewer is located behind a

commercial/retail development. For the purposes of this evaluation, it is assumed that the entire 30-foot-wide easement would be impacted in order to upsize the existing sewer line.

General Plan Amendment/Circulation Element Improvements

Deer Springs Road General Plan Amendment/Circulation Element Improvements

The proposed project includes a General Plan Amendment to the Circulation Element (GPA/CE), which includes the reclassification of Deer Springs Road from Twin Oaks Valley Road to Champagne Boulevard from a Major Road to a six-lane Prime Arterial. For purposes of the GPA/CE, the Deer Springs Road alignment was analyzed under two scenarios: plan-to-ground and plan-to-plan. The plan-to-ground analysis consists of impacts that would occur as a result of designating Deer Springs Road as a six-lane Prime Arterial in comparison to the existing two-lane paved roadway. The plan-to-plan analysis consists of impacts that would occur as a result of re-designating Deer Springs Road as a six-lane Prime Arterial in comparison to its four-lane Major Road designation under the adopted Circulation Element.

The GPA/CE is analyzed separately from the remainder of the Merriam project because it is needed to accommodate traffic generated by the adopted Land Use Element of the General Plan, even without additional traffic generated by development of the Merriam project.

PROJECT DESCRIPTION, LOCATION, AND SETTING

Please refer to Section 1.2 of the Biological Technical Report (PSBS 2007) for a full description of the Merriam project.

METHODS AND SURVEY LIMITATIONS

Biological surveys of the off-site areas included vegetation mapping and were conducted by Dudek biologists Anita M. Hayworth, Ph.D., a county-approved biologist, and Callie Ford (see Table 1 for survey dates and conditions). New mapping prepared by Dudek supplemented previous mapping conducted as part of the Biological Technical Report (PSBS 2007) and provided current mapping for all areas addressed in this memorandum. Surveys were conducted on foot and the entire limits of the off-site areas not surveyed in prior visits were surveyed. Vegetation communities were mapped in the field directly onto an aerial photograph of the site at 100-scale (1 inch = 100 feet). For the off-site wastewater upgrade, plant and animal species observed within the easement also were recorded. Special-status species were evaluated based on the habitats present within the improvement areas and the habitat preferences of the species. The California Natural Diversity Database (CNDDB) was also reviewed to provide additional

information on special-status species previously recorded for the improvement areas. No focused surveys were conducted due to the time of year.

Table 1
Survey Dates and Conditions

Date	Area Surveyed/Focus of Survey	Personnel	Time	Conditions
4/30/08	Off-site wastewater upgrade	Callie Ford	Not recorded	Not recorded
5/06/08	Deer Springs Road/I-15 interchange	Callie Ford	Not recorded	Not recorded
9/05/08	Revised alignment for Deer Springs Road	Callie Ford	Not recorded	Not recorded
12/09/08	Twin Oaks Valley Road Widening; Camino Mayor improvements; Evaluation of wildlife movement along Deer Springs Road; Evaluation of special-status species potential to occur; General review of the subject improvements and confirmation of mapping	Anita Hayworth	11:00 a.m. – 5:00 p.m.	67°–71° F; partly sunny; 3-5 mph winds

An informal wetlands delineation was conducted for the off-site wastewater upgrade and Camino Mayor based on the observation of wetland vegetation communities and topography since the boundaries of the wetlands were easily discernable. The informal wetlands delineation determined land under the jurisdiction of the following resource agencies:

- U.S. Army Corps of Engineers (ACOE), pursuant to Section 404 of the federal Clean Water Act (CWA)
- Regional Water Quality Control Board (RWQCB), pursuant to Section 401 of the federal CWA and the Porter-Cologne Water Quality Control Act
- California Department of Fish and Game (CDFG), pursuant to Section 1602 of the California Fish and Game Code
- County of San Diego pursuant to the Resource Protection Ordinance (RPO) for areas within County jurisdiction.

Areas under the jurisdiction of the County were determined based upon the County's RPO as described in the Biological Technical Report (PSBS 2007).

The vegetation boundaries and locations of special-status species were digitized by Dudek GIS technician Lesley Terry using the ArcCAD system at Dudek.

Plant community classifications used in this report follow Holland (1986), with modifications as provided by the County of San Diego (2008). Locations of rare or special-status plant and wildlife species also were mapped, if observed.

ANTICIPATED IMPACTS

This section addresses direct and indirect impacts to biological resources that would result from implementation of the proposed project improvements.

Direct impacts were quantified by overlaying the proposed project's improvement impact limits on the biological resources map of the site. Direct impacts include the development area and the fuel modification as appropriate.

Indirect impacts result primarily from adverse "edge effects," and may be short term in nature, related to construction, or long term in nature, associated with development in proximity to biological resources within natural open space.

Guidelines for the Determination of Significance

The proposed off-site impacts were analyzed with respect to the significance guidelines that are relevant to the type of impact associated with small, isolated, or linear impacts. Guidelines 1, 2, 4, and 10 address blocks of substantially native habitat that provide function, contiguity, species composition, and diversity of the ecosystem. Thus, Guidelines 1, 2, 4, and 10 do not apply since they address large, functional high-value habitats or functional patches of foraging habitat, which would have to be large to support raptors, rather than small fragments of habitat, which are addressed in this memorandum on the off-site impacts. These impacts are linear and isolated in nature and result in small linear impacts to native habitat. Guidelines 6a and 6b are not applicable in this analysis for a similar reason as they are related to a substantial population of wildlife. The analysis of the off-site features for the Merriam project is related to small linear impacts and does not relate to substantial populations. Guideline 6d does not apply since this project does not create an artificial movement corridor. Guidelines 11c, 11e, 11f, 11g, and 11h do not apply because these indirect impacts apply to large-scale issues related to groundwater, pets, pollution, ornamental vegetation, or pests that would not be a part of the narrow linear and isolated improvements that are included in this discussion. Guideline 15 does not apply since there are no HCPs, Habitat Management Plans, or Special Area Management Plans, within the region**.**

For the purposes of analysis of the proposed off-site project features or improvements, project-related improvements or activities would result in direct and/or indirect impacts that would be detrimental to biological resources if they resulted in the following impacts.

Vegetation Community/Habitat Impacts

Impacts to vegetation communities/habitat would be significant if:

- Any functionally viable component of native or naturalized habitat will be removed or substantially impacted through grading, clearing, and/or other construction activities.
- Any of the following will occur to or within wetlands: removal of associated vegetation; grading; obstruction or diversion of water flow; change in velocity or siltation rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause a change in species composition, diversity, and abundance.

Wildlife Movement Impacts

Impacts to wildlife movement would be significant if:

- Project-related improvements or activities within or adjacent to local wildlife corridors, subregional or regional linkages, or other areas used for wildlife movement will further constrain a narrow wildlife corridor by reducing width, removing available vegetative cover, create substantially adverse edge effects, or placing barriers in the movement path.

Special-Status Species Impacts

Impacts to special-status species would be significant if:

- Direct, indirect, and/or cumulative impacts may occur that may be detrimental to the regional long-term survival of a County Sensitive animal (those recognized by a government agency or conservation or scientific group as being depleted, potentially depleted, declining, rare, locally endemic, endangered, or threatened (based on scientifically valid criteria), and/or any species nominated for or on a state or federal rare, endangered, or threatened species list within the San Diego subregion) or direct, indirect, and/or cumulative impacts that may reduce the local population of a plant species listed as federally or state endangered or threatened, and/or listed as a County Group A or B plant species, or Group C or D plant species as listed by the County, or a County-defined sensitive habitat (any habitat recognized by a government agency or conservation or scientific group as being depleted, rare, and/or endangered), or otherwise sensitive, based on scientifically valid criteria.
- Grading, clearing, construction, or other activities (including passive and active recreation, permanent development, or recreational activities) will occur within 4,000 feet of an active golden eagle nest during the breeding season (February 15 to July 15), such that it would be likely to interfere with normal nesting activities of the eagle (considers impacts that would not be in the line-of-sight, or where natural noise buffering reduces potential impacts to less than significant.

- Grading, clearing, and/or construction will occur within the following distances and within the following time periods for one or more of the species listed in Table 2.

Table 2
Restrictions on Construction Activities for Special-Status Species

Species	Distance	Breeding Season
Coastal cactus wren	300 feet from occupied habitat	February 15 to August 15
Coastal California gnatcatcher	300 feet from occupied habitat	February 15 to August 31
Least Bell's vireo	300 feet from occupied habitat	March 15 to September 15
Southwestern willow flycatcher	300 feet from occupied habitat	May 1 to September 1
Tree-nesting raptors	300 feet from occupied habitat	February 15 to July 15
Ground-dwelling raptors	800 feet from occupied habitat	February 15 to July 15

Indirect Impacts

Indirect impacts to biological resources would be significant if:

- On- or off-site native habitat will be subjected to substantially adverse urban-type edge effects, including the following:
  - Project-generated noise levels in excess of 60 dB during daytime hours and 50 dB during nighttime hours measured at the edge of native habitats slated for preservation
  - Artificial light exceeding a level of one-half as bright as a full moon
  - Project-generated, unauthorized human encroachment that is substantially detrimental to native flora and fauna, including but not limited to unauthorized clearing, trash dumping, or off-road vehicle traffic within preserve areas.
- The proposed project reduced habitat viability in habitats not directly impacted by the project.

Regulatory Compliance

The project's impact on biological resources would be considered significant if:

- The project does not conform to the requirements regarding wetlands, wetland buffers, or sensitive habitat lands as outlined in the County of San Diego RPO.
- The project does not conform to the goals and requirements of the County of San Diego Habitat Loss Permit (HLP) Ordinance or Natural Community Conservation Plan (NCCP).

- The project does not conform to the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, CWA, Porter-Cologne Water Quality Control Act, and the California Fish and Game Code.

Guideline Sources

The aforementioned significance criteria are based on Appendix G of the CEQA Guidelines, County regulations, state and federal regulations, and other County guidance, as described below.

Vegetation Community/Habitat Impacts: Significance Criteria 3 and 5

Equestrian Staging Area and Twin Oaks Valley Road Frontage Improvements

Impacts to biological resources resulting from the equestrian staging area, fuel modification, and off-site trail connection include the following: 0.7 acre of mafic southern mixed chaparral and 0.6 acre of Diegan coastal sage scrub (DCSS). The Twin Oaks Valley Road frontage improvements, as stated above, were mapped for the 2007 Biological Technical Report (PSBS 2007); however, impacts were not evaluated. Impacts resulting from the frontage improvements include 0.9 acre of DCSS, 0.1 acre of disturbed habitat, 2.5 acres of mafic chaparral, 2.9 acres of granitic chaparral, and 1.1 acres of urban/developed habitat. The impacted areas, including the areas associated with the frontage improvements, are shown in Table 3. Figure 3 shows the vegetation mapped for the equestrian staging improvement area. The frontage improvements are shown in the 2007 Biological Technical Report.

Table 3
Equestrian Staging Area Impacts

Vegetation Type	Impact (Acres)		
	Equestrian Staging Area	Twin Oaks Valley Road Frontage Improvements	Total
Disturbed habitat		0.1	0.1
Urban/developed		1.1	1.1
Diegan coastal sage scrub	0.6	0.9	1.5
Southern mixed chaparral – granitic		2.9	2.9
Southern mixed chaparral - mafic	0.7	2.5	3.2
Total	1.3	7.5	8.8

Camino Mayor Improvement Area

Minimal disturbed chaparral is located within the 40-foot easement, as it is mostly disturbed due to vehicles using the existing dirt roadway. Additional amounts of southern mixed chaparral are associated with the proposed impacts along the edges of the existing dirt roadway. These impacts are associated with the required improvements and with fuel modification adjacent to the roadway. The total impact resulting from the proposed road improvements and fuel modification include 2.3 acres of southern mixed chaparral, 0.2 acre of developed habitat, 0.2 acre of disturbed habitat, and 0.6 acre of orchard. In addition, a small amount, 0.1 acre of southern willow scrub and 467 linear feet of ephemeral drainage would be impacted. The ephemeral drainage is located along both sides of the existing dirt road from the western boundary of the project to approximately 850 feet west of the boundary. The channel along the southern side of the existing dirt road passes through a culvert under the road to the northern side and the ephemeral drainage continues along only the northern side of the road to the intersection of Camino Mayor and Twin Oaks Valley Road. Based on the lack of hydrophytic vegetation; the temporary nature of water in the channel preventing development of hydric soils; and the lack of robust wetlands downstream of the channel so that this channel does not contribute in a biologically substantial manner to the downstream habitat, it is assumed that the ephemeral channels are under the jurisdiction of the ACOE, RWQCB, and CDFG. At the intersection of Camino Mayor and Twin Oaks Valley Road, a small patch of willows is located. This patch would likely be considered a County RPO wetland, as well as the jurisdiction of CDFG, due to the predominance of hydrophytic vegetation and the likely presence of hydric soils. The channel located within the patch of southern willow scrub would also be the jurisdiction of ACOE and RWQCB. As a requirement of the RPO, a buffer for the wetland is shown on Figure 4 that extends from the edge of the wetland to the dirt road or for 50 feet, whichever occurs first. The width of 50 feet is appropriate for the buffer due to the small size of the patch and the lack of potential for occupation of the patch by endangered species. The proposed road improvement is required for the road to function as an emergency access route. The improvements were designed to avoid the jurisdictional impacts as much as possible; however, the topography is such that impacts could not be completely avoided. Similarly, the wetland buffer could not be avoided completely due to the location of the patch of willows adjacent to the intersection. The impacted acres are shown in Table 4. In addition, Figure 4 shows the location for vegetation within the improvement area.

Table 4
Camino Mayor Improvement Area Impacts

Vegetation Type	Impact (Acres)
Urban/developed	0.~~2~~4
Orchard	0.6
Southern mixed chaparral	2.3
Southern willow scrub**	0.1*
Total	3.4

* Includes 467 linear feet of non-vegetated ephemeral channel jurisdiction of ACOE, RWQCB, and CDFG.

** CDFG and County RPO wetlands

Deer Springs Road/I-15 Interchange Improvements

The interchange improvements footprint would result in 7.4 acres of ground disturbance. The following vegetation communities were identified within the potential improvement footprint: 0.2 acre of DCSS, 0.6 acre of disturbed habitat, 0.1 acre of eucalyptus woodland, and 0.5 acre of non-native grassland (NNG). The remaining 6.0 acres consists of urban/developed land. The impacted acres are shown in Table 5. In addition, Figure 5 shows the location for vegetation within the improvement area.

Table 5
Deer Springs Road/I-15 Interchange Impacts

Vegetation Type	Impact (Acres)
Disturbed habitat	0.6
Urban/developed	6.0
Eucalyptus woodland	0.1
Diegan coastal sage scrub	0.2
Non-native grassland	0.5
Total	7.4

Deer Springs Road Revised Alignment

The widening of Deer Springs Road from the I-15 interchange to Twin Oaks Valley Road would result in relatively few impacts to a variety of native and non-native habitats. Impacted vegetation would consist of intensive agriculture (4.7 acres), non-vegetated channel (0.5 acre), coast live oak woodland associated with stream (CDFG/County RPO) (0.1 acre), coast live oak woodland (0.3 acre), southern mixed chaparral (0.1 acre), disturbed coastal sage–chaparral scrub (3.3 acres), disturbed habitat (1.3 acres), eucalyptus woodland (1.0 acres), non-native grassland

(1.5 acres), orchard (0.7 acre), and urban/developed habitat (22.6 acres). Similar to the equestrian staging area discussed above, the roadway improvement has been designed to avoid County wetlands to the extent practicable. The impacted acres are shown in Table 6. In addition, Figures 6a through 6c show the location for vegetation within and adjacent to improvements along Deer Springs Road.

Table 6
Deer Springs Road Impacts

Vegetation Type	Impact (Acres)
Disturbed habitat	1.3
Urban/developed	22.6
Orchard	0.7
Intensive agriculture	4.7
Eucalyptus woodland	1.0
Disturbed coastal sage–chaparral scrub	3.3
Southern mixed chaparral	0.1
Non-native grassland	1.5
Coast live oak woodland	0.3
Coast live oak woodland associated with stream (CDFG/County)*	0.1
Non-vegetated ephemeral channel **	0.5
Total	36.1

* CDFG and County RPO wetlands
** (CDFG, RWQCB, ACOE jurisdiction)

Twin Oaks Valley Road Widening

The widening of Twin Oaks Valley Road would result in relatively few impacts overall and would include 7.7 acres of ground disturbance. The following vegetation communities were identified within the potential improvement footprint: 0.1 acre of disturbed habitat and 7.6 acres of urban/developed lands. The impacted acres are shown in Table 7. In addition, Figure 7 shows the location of vegetation within the improvement area.

Table 7
Twin Oaks Valley Road Widening Impacts

Vegetation Type	Impact (Acres)
Disturbed habitat	0.1
Urban/developed	7.6
Total	7.7

Off-Site Wastewater Upgrade Near Twin Oaks Valley Road

The vegetation survey identified a total of 0.1 acre of disturbed southern willow scrub (SWS) and 0.5 acre of disturbed habitat located within the existing easement. The impacted acres are shown in Table 8. In addition, Figure 8 shows the location for vegetation within the upgrade area. Based on the predominance of hydrophytic vegetation within areas mapped as southern willow scrub and the presence of flowing water, it was assumed that these are wetland areas under the jurisdiction of ACOE, RWQCB, and CDFG.

Table 8
Off-Site Wastewater Upgrade Impacts

Vegetation Type	Impact (Acres)
Disturbed habitat	0.5
Disturbed southern willow scrub*	0.1
Total	0.6

* ACOE/RWQCB/CDFG

Summary of Impacts to Vegetation Communities

The total impacts to vegetation communities resulting from the proposed improvement areas associated with on- and off-site project activities are summarized in Table 9. These impacts include the disturbance associated with the equestrian staging area and Twin Oaks Valley Road frontage improvements, off-site Camino Mayor improvements, Deer Springs Road/I-15 interchange improvements, Deer Springs Road revised alignment, Twin Oaks Valley Road widening, and off-site wastewater upgrade near Twin Oaks Valley Road as previously outlined individually. A brief description of the affected vegetation communities is available in the 2007 Biological Technical Report. Additionally, Attachment A to this technical memorandum indicates the overall changes in project vegetation impacts resulting from these additional improvements.

Table 9
Total Impacts to Vegetation Communities

Vegetation Type	Impact (Acres)
Disturbed habitat	2.8
Urban/developed	37.5
Orchard	1.3
Intensive agriculture	4.7
Eucalyptus woodland	1.1
Diegan coastal sage scrub	1.7

Table 9 (Continued)

Vegetation Type	Impact (Acres)
Disturbed coastal sage–chaparral scrub	3.3
Southern mixed chaparral – granitic	5.3
Southern mixed chaparral – mafic	3.2
Non-native grassland	2.0
Southern willow scrub (CDFG/County for the areas outside of City of San Marcos)	0.2
Coast live oak woodland	0.3
Coast live oak woodland associated with a stream (CDFG/County)	0.1
Non-vegetated ephemeral channel (ACOE/RWQCB/CDFG)	0.5*
Total	64.0

* Includes the 467 linear feet of ephemeral drainage impacts noted for the Camino Mayor improvements that are located within southern mixed chaparral.

Deer Springs Road GPA/CE Improvements

Plan-to-ground: Based on conceptual design information, the improvement of Deer Springs Road from the existing two-lane facility to a Prime Arterial would directly impact 39.5 acres, including approximately 12 acres of habitat identified as sensitive by the County of San Diego. Anticipated impacts by vegetation community are summarized in Table 10. In addition, Figures 6a through 6c show the location for vegetation within the plan-to-ground improvement area.

Plan-to-plan: Reclassification of Deer Springs Road from a Major Road to a Prime Arterial would result in impacts to approximately 5.3 acres, including 0.9 acre of vegetation communities identified as sensitive by the County of San Diego. Anticipated impacts by vegetation community are summarized in Table 10. In addition, Figures 6a through 6c show the location for vegetation within the plan-to-plan improvement area.

Table 10
Deer Springs Road GPA/CE Improvements

Vegetation Type	Plan-to-Ground (acres)	Plan-to-Plan (acres)
Disturbed habitat	1.3	0.1
Urban/developed	18.3	3.3
Orchard	0.9	0.2
General agriculture	5.4	0.7
Eucalyptus woodland	1.6	0.1
Coastal sage–chaparral scrub	2.5	0.4
Disturbed coastal sage-chaparral scrub	1.0	0.1
Southern mixed chaparral	5.8	0.0
Non-native grassland	1.4	0.1

Table 10 (Continued)

Vegetation Type	Plan-to-Ground (acres)	Plan-to-Plan (acres)
Coast live oak woodland	0.8	0.2
Non-vegetated ephemeral channel*	0.5	0.1
Total	39.5	5.3

* ACOE/RWQCB/CDFG

Note: The limits of the GPA/CE improvements do not include the portion of Deer Springs Road in the City of San Marcos.

Wildlife Movement Impacts: Significance Criterion 6c

Please refer to Section 1.4.9 of the Biological Technical Report (PSBS 2007) for a detailed discussion of habitat connectivity and wildlife corridors on the project site and in the vicinity of the project. The improvement areas included in this analysis would not impact any wildlife corridors or habitat linkages. All improvement areas occur adjacent to existing developed areas and the proximity of existing residential and agricultural uses and roads with higher traffic volumes make these areas less conducive to wildlife movement when compared to other areas in the project vicinity.

The equestrian staging area and frontage improvements would result in impacts along an existing roadway. The improvements would not result in blocking the potential for wildlife to move within the region. The Camino Mayor improvements would result in a linear improvement of an existing dirt road and would result in little additional traffic since the improvements are for emergency access. The Deer Springs Road/I-15 interchange improvements are narrow impact improvements within an existing freeway interchange. The Deer Springs Road Revised Alignment would result in impacts to habitat along a linear portion of an existing road. This road currently has little opportunity for wildlife movement for most of the road alignment where the existing habitat on one side of the road is separated from the opposite side by a steep cut bank, fencing, or existing development. There are a number of existing culverts along the roadway. These culverts will all be increased in size from the existing 18- to 36-inch culverts that will be able to accommodate small to medium-sized wildlife species movement.

The proposed storm drain pipe sizes would range from no change in diameter (18 inches) to 5- by 10-foot box culverts (Fuscoe Engineering 2008). All of the culvert lengths will be increased from approximately 30 to 110 feet with the proposed road widening.

At the time of observation, wildlife was found to be using the series of three culverts (Node 3000) just east of the intersection of Twin Oaks Valley Road and Deer Springs Road. Tracks observed entering the culvert included those of rabbits, raccoons, and coyotes. One of the culverts was free of spider webs whereas others contained webs that covered the culvert opening.

Wildlife species also were noted to attempt to cross the surface of the roadway. None of the culverts along the alignment will be blocked with the roadway improvements but instead will be improved for wildlife use because the openness ratios (cross section area divided by length) of the culverts will be maintained or increased. Maintaining the existing culvert sizes and/or increasing the culvert size will provide opportunities for medium-sized mammals that are currently potentially using the culverts to continue using the proposed culverts. Although the proposed culverts are longer, the larger cross-sectional area of the culverts results in a greater openness ratio to provide opportunity for wildlife movement by mammal species. The widening of Twin Oaks Valley Road south of Deer Springs Road would not result in impacts to native habitat and would not block any existing movement opportunities. The off-site wastewater upgrade, although located within a wetland area containing riparian habitat, would not result in widening of development but would strictly replace an existing underground pipeline.

Thus, the proposed improvements that are discussed in this memorandum would not further constrain an existing narrow wildlife corridor by reducing width, removing available vegetative cover, creating substantially adverse edge effects, or placing barriers in the movement path. In contrast, the proposed improvements would provide improved ability for wildlife movement, due to the increase in the openness ratio of the culverts, in an area that currently has constraints with traffic volume. Thus, impacts to wildlife movement are anticipated to be less than significant through the implementation of the proposed improvements.

Special-Status Species Impacts: Significance Criteria 7 through 9

The potential for special-status species to occur was evaluated during the current evaluation of the improvement areas and supplemented the information reported in the Biological Technical Report (PSBS 2007). Methods for this evaluation are provided above. In general, nests of raptors and golden eagles would not be detectable at the time of year of the review of the improvement areas. Potential for such nesting is noted for each improvement feature. Nesting of such species would be addressed prior to grading/construction and is discussed below.

The potential for special-status species for the equestrian staging area and frontage improvements were evaluated by the Biological Technical Report since this feature is located within the project boundary. No special-status resources were detected within this improvement area.

The potential for special-status species for the Camino Mayor improvements, the Deer Springs Road/I-15 interchange improvements, the Deer Springs Road revised alignment, and the Deer Springs Road GPA/CE improvements are similar to those analyzed for the project and reported in the Biological Technical Report (PSBS 2007) due to the proximity of the improvements and

the presence of similar habitats. Thus, the species potentially present include summer holly, Ramona horkelia and Engelmann oak, northern red-diamond rattlesnake, San Diego horned lizard, orange-throated whiptail, coastal whiptail, San Diego desert woodrat, California thrasher, and red-shouldered hawk. However, due to the narrow linear configuration of the proposed improvements, it is not anticipated that these impacts would result in impacts to populations of any of these special-status species.

Due to the lack of native habitat and predominance of urban developed lands within the Twin Oaks Valley Road widening area, no special-status species are anticipated to occur.

The off-site wastewater upgrade area is located within an area that includes a wide and long patch of southern willow scrub. Although the impacts to riparian habitat are very small, there is a potential for special-status riparian species to occur. These species include two-striped garter snake (*Thamnophis hammondii*), Cooper's hawk (*Accipiter cooperi*), long-eared owl (*Asio otus*), red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow warbler (*Dendroica petchia*), and yellow-breasted chat (*Icteria virens*). A number of special-status bat species could also forage within the riparian habitat, including pallid bat (*Antrozous pallidus*); Townsend's big-eared bat (*Corynorhinus townsendii pallescens*); spotted bat (*Euderma maculatum*); greater western mastiff bat (*Eumops perotis californicus*); western red bat (*Lasiurus blossevillii*); California leaf-nosed bat (*Macrotus californicus*); small-footed myotis (*Myotis ciliolabrum*); long-eared myotis (*Myotis evoltis*); fringed myotis (*Myotis thysanodes*); long-legged myotus (*Myotis volans*); and Yuma myotis (*Myotis yumanensis*), although roosting or nursery sites are not available within the habitat.

A number of raptor species could nest within any of the improvement areas where trees and large shrubs are available for placement of nests. This includes the frontage area of the equestrian staging area since large shrubs are present within the frontage; Camino Mayor where the patch of southern willow scrub is present; the Deer Springs Road/I-15 interchange since eucalyptus is present; Deer Springs Road area because oak and eucalyptus are present; Twin Oaks Valley Road widening area since a number of individual ornamental street trees are present; and the Deer Springs Road GPA/CE improvement area since oaks and eucalyptus are present.

There are no active golden eagle nests in the vicinity of the project or within the improvement areas. Since golden eagles generally use existing nests and forage in proximity to their nests, and since there are no active nests known to occur within 4,000 feet of any project-related disturbances, no impacts to golden eagle are anticipated.

Indirect Impacts: Significance Criteria 11 and 12

Indirect impacts potentially related to the improvements proposed in this memorandum include noise, lighting, human encroachment, and reduction in habitat viability of adjacent areas. In general, the proposed improvements, including road widening or utility installation and construction noise, will be temporary and future noise from traffic will be incremental if at all. No night lighting is proposed for the improvement areas and human encroachment will be limited to the non-motorized multiuse trails proposed or will not occur at all. A trail linkage will be provided adjacent to the equestrian staging area and provides a connection to an existing dirt trail. The proposed trail will not result in indirect impacts due to measures described in the Resource Protection Plan (Appendix T to the EIR). These measures provide protection for special-status resources through the use of signage and peeler-log fencing along the trails to prevent intrusion into the Biological Open Space. Policies 9.1 through 9.3 of the Resource Protection Plan include measures to provide for protection of special-status resources.

The Deer Springs Road improvements include a trail adjacent to the proposed roadway widening. There are currently no officially designated trails along Deer Springs Road. Recreational users can be seen utilizing the disturbed areas adjacent to the roadway for walking. The project would provide recreational opportunities for trail users along the roadway that does not occur presently; however the area includes developed land with rural residential, or intensive agriculture, neither of which has native habitat associated with it. For areas where there is native habitat adjacent to the roadway alignment, the existing roadway is adjacent to the proposed trail and there is existing road noise associated with motorists passing along the roadway and there will be a small incremental increase to the potential indirect impacts to the habitat from trail usage. Although there is some opportunity for human intrusion into the adjacent native habitat, the proposed trail will define the use area and the adjacent dense vegetation will preclude access into it. Thus indirect impacts resulting from trails associated with the project will be less than significant.

Regulatory Compliance: Significance Criteria 13, 14, and 16

The project is requesting an amendment to the County RPO for the proposed project and associated off-site improvements. Even though the project proposes an amendment to the County RPO, the off-site portions of Deer Springs Road qualify as an essential public facility exemption because they are included in the Circulation Element of the General Plan, there is no feasible less environmentally damaging improvement, a net gain mitigation will occur, native vegetation will be used to landscape steep cut and fill slopes, and mature riparian woodlands will not be destroyed or reduced in size. Even though the project would be exempt from RPO, CEQA impacts to County wetlands are analyzed and mitigated.

As noted above under Vegetation Community/Habitat Impacts, some impacts are anticipated to occur to wetlands and wetland buffers under the jurisdiction of the County RPO. These impacts are anticipated to occur within the Camino Mayor improvement area and Deer Springs Road revised alignment.

In the case of Camino Mayor and Deer Springs Road, the wetland is located adjacent and parallel to the roadway and no crossing is required. However, there is not adequate distance or topography to completely avoid the impact to wetlands or to move the road improvement entirely out of the wetland buffer. The impacts have been reduced to the extent possible. For Camino Mayor, the impacts are minimal and include 0.01 acre of impact to southern willow scrub.

The Deer Springs Road revised alignment, similar to the Camino Mayor improvements discussed previously, will impact 0.1 acre of coast live oak woodland associated with a stream. These County RPO wetlands, including their wetland buffer, are located adjacent and parallel to the existing Deer Springs Road. They are located at the south side of the road and approximately 1,200 feet west of the I-15 interchange. There is not adequate distance or topography to completely avoid the impact to wetlands or to move the road improvement entirely out of the wetland buffer. The wetland impacts have been reduced to the maximum extent possible and only 0.1 acre is anticipated to be impacted.

The Merriam project is considered in the draft North County MSCP as combined preserve and pre-authorized take areas. The eastern 1 mile of the Deer Springs Road alignment is designated as a Pre-Approved Mitigation Area (PAMA); the balance of the Deer Springs Road alignment is not designated as a PAMA.

Conformance of the improvements with the County of San Diego HLP Ordinance or NCCP has been discussed in the Biological Technical Report and EIR for the project. As noted for the project as well as for the improvements that are the subject of this memorandum, the required findings can be made, including

- Finding 1.a: The habitat loss does not exceed the 5 percent guideline;
- Finding 1.b: The habitat loss will not preclude connectivity between areas of high habitat values;
- Finding 1.c: The habitat loss will not preclude or prevent the preparation of the subregional NCCP (the project has a hardline agreement for consistency with the subregional NCCP);

- Finding 1.d: Habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines (the all south clustered development);
- Finding 2: The habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild.

Mitigation for the impacts resulting from these improvements are proposed as noted below and as discussed previously, connectivity as a result of these improvements will not be precluded and in fact connectivity will be improved by the provision of larger culverts under Deer Springs Road.

The proposed off-site wastewater upgrade would result in impacts to approximately 0.1 acre of disturbed southern willow scrub. This is a wetland vegetation community and is under the jurisdiction of the ACOE, RWQCB, and CDFG. Prior to impacting this wetland, appropriate permits should be obtained. As noted in Tables 3 through 10, impacts to non-vegetated ephemeral channel are anticipated. These impacts will require that permits for such impacts be obtained from the appropriate agencies, including the RWQCB, ACOE, and CDFG. Thus, the improvements as well as the Deer Springs Road GPA/CE improvements will be in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Control Act, and the California Fish and Game Code, because conditions of approval will require that the proposed project obtain applicable permits and implement avoidance of migratory birds, raptors, eagles.

SIGNIFICANCE OF PROJECT IMPACTS

Riparian Habitat or Sensitive Natural Community

Direct impacts, due to project-related grading and construction, are shown in Tables 3 through 9. The improvement areas included in this analysis would permanently remove 1.7 acres of Diegan coastal sage scrub, 3.3 acres of disturbed coastal sage–chaparral scrub, 5.3 acres of granitic southern mixed chaparral, 3.2 acres of mafic southern mixed chaparral, 2.0 acres of non-native grassland, 0.2 acre of southern willow scrub, 0.3 acre of coast live oak woodland, 0.1 acre of coast live oak woodland associated with a stream, and 0.5 acre of non-vegetated ephemeral channel. These impacts are considered significant (Impact BIO-1).

As seen in Table 10, the improvements for the Deer Springs Road GPA/CE plan-to-ground would permanently remove 2.5 acres of coastal sage–chaparral scrub, 5.8 acres of southern mixed chaparral, 1.4 acres of non-native grassland, 0.8 acre of coast live oak woodland, and 0.5

acre of non-vegetated ephemeral channel. The improvements for the Deer Springs Road GPA/CE plan-to-plan would permanently remove 0.4 acre of coastal sage–chaparral scrub, 0.1 acre of non-native grassland, 0.2 acre of coast live oak woodland, and 0.1 acre of non-vegetated ephemeral channel. These impacts are considered significant (GPA/CE Impact BIO-1).

Special-Status Species

The new offsite impact areas have the potential to impact a number of special-status upland species, including summer holly, Ramona horkelia and Engelmann oak, northern red-diamond rattlesnake, San Diego horned lizard, orange-throated whiptail, coastal whiptail, San Diego desert woodrat, California gnatcatcher, California thrasher, and red-shouldered hawk, by removing 1.1 acres of Eucalyptus woodland, 3.3 acres of coastal sage scrub, 0.1 acres of southern mixed chaparral, 2.0 acres of non-native grassland, and 0.4 acres of coast live oak woodland. However, none of these species were observed in the impact areas during the field work for this report. Due to the nature of the impacts, which mostly result in the removal of roadside slivers of suitable habitat and the existing edge effects in these areas, impacts to these species are expected to be less than significant. Because these improvement areas are subject to the Habitat Loss Permit Ordinance, they will be surveyed again prior to any species impacts, and if impacts have not been adequately covered by their associated habitat based mitigation and breeding season avoidance mitigation presented here, will be mitigated according to the ordinance.

The new offsite impact areas have the potential to impact riparian species by removing 0.1 acre of southern willow scrub associated with the wastewater improvement. This is a very small amount of impact, but the following species could occur in this portion of San Marcos Creek: two-striped garter snake, Cooper's hawk , long-eared owl, red-shouldered hawk, yellow warbler, yellow-breasted chat, white-tailed kite, least Bell's vireo, and southwestern willow flycatcher. A number of special status bat species could also forage within the riparian habitat, including , pallid bat, Townsend's big-eared bat, spotted bat, greater western mastiff bat, western red bat, California leaf-nosed bat, small-footed myotis, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis. Potential wetland species impacts are considered less than significant because the impact area is very small (0.1 acre), adjacent to existing urban development, would be limited to a utility line installation in a narrow band along the outer edge of the wetland habitat. In addition, these improvement areas are subject to wetland permitting and they will be surveyed again prior to any species impacts, and if impacts have not been adequately covered by their associated habitat based mitigation and breeding season avoidance mitigation presented here, will be mitigated according to the permit.

Raptors could nest within almost any portion of the improvement areas. Impacts to nesting raptors would be considered significant. Although the impact would be temporary, construction measures to avoid significant impacts shall be implemented (Impact BIO-7).

Regulatory Compliance

Impacts to RPO wetlands proposed for Camino Mayor and Deer Springs Road are mitigated by creation and enhancement of like habitats discussed under Vegetation Community/Habitat Impacts (Significance Criteria 3 and 5).

Impacts to other wetlands or non-vegetated ephemeral drainages that are under the jurisdiction of ACOE, RWQCB, or CDFG are also considered significant (Impact BIO-4).

Potential impacts to nesting birds during construction, in addition to nesting raptors, are considered significant (Impact BIO-7).

PROPOSED MITIGATION

This section describes avoidance, minimization, and mitigation measures that would reduce project impacts to a less-than-significant level. No mitigation is required for disturbed or developed areas, including disturbed habitat, urban/developed, orchard, intensive agriculture, or eucalyptus woodland areas. Mitigation for impacts to other communities, including riparian or other sensitive habitats, is determined based on the County of San Diego Guidelines (2008).

Riparian Habitat or Sensitive Natural Community

Equestrian Staging Area and Twin Oaks Valley Road Frontage Improvements

The required mitigation ratios for the impacted vegetation communities include the following: mafic chaparral (3:1), Diegan coastal sage scrub (DCSS) (2:1), and southern mixed chaparral (0.5:1). With respect to mafic chaparral, the only project impact to this vegetation community would include improvements along Twin Oaks Valley Road and the equestrian staging area. The preservation of 57.4 acres of mafic chaparral within Biological Open Space, in accordance with the requirements of the RPP, would ensure impacts to this vegetation community are reduced to less than significant because the required mitigation for this vegetation community would be 9.6 acres. Mitigation for impacts to Diegan coastal sage scrub would be met at a 2:1 ratio requiring 3.0 acres of mitigation through a combination of on-site preservation within Biological Open Space, acquisition of Captains Associate's Parcel, and a coastal sage scrub/grassland mosaic restoration on site in accordance with the Upland and Wetland Conceptual Revegetation Plan. Impacts to southern mixed chaparral would be met at a 0.5 to 1 ratio requiring 1.5 acres of

mitigation that would be completed through southern mixed chaparral being preserved within Biological Open Space. This would reduce project impacts to sensitive vegetation to less than significant.

Camino Mayor Improvement Area

The required mitigation ratios for the impacted vegetation communities include the following: southern mixed chaparral (0.5:1) and southern willow scrub (3:1). Impacts to southern mixed chaparral would be met at a 0.5 to 1 ratio, requiring 1.2 acres of mitigation that would be completed through southern mixed chaparral being preserved within the Biological Open Space. Impacts to 0.1 acre of southern willow scrub, a wetland community, would be met at a 3 to 1 ratio requiring approval of a Revegetation Plan for 0.3 acre of a combination of creation and restoration of wetland communities within the Biological Open Space. The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 Streambed Alteration Agreement (SAA) permit. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies. This would reduce project impacts to sensitive vegetation communities to less than significant.

Deer Springs Road/I-15 Interchange

Impacts to DCSS would be met at a 2 to 1 ratio, requiring 0.4 acre of mitigation. The mitigation requirement would be met through a combination of on-site preservation within the Biological Open Space; acquisition of Captains Associate's Parcel; and a coastal sage scrub/grassland mosaic restoration on site, in accordance with the Upland and Wetland Conceptual Revegetation Plan. Impacts to non-native grassland (NNG) would be met at 0.5 to 1 ratio requiring 0.2 acres of mitigation that would be completed through NNG being preserved within the Biological Open Space. This would reduce project impacts to sensitive vegetation communities to less than significant. It should be noted that the required mitigation for the impacts to vegetation communities is preliminary as the design configuration for the interchange has not yet been approved by Caltrans.

Revised Alignment for Deer Springs Road

The required mitigation ratios for the impacted vegetation communities include the following: coastal sage–chaparral scrub (2:1), southern mixed chaparral (0.5:1), non-native grassland (0.5:1), coast live oak woodland (3:1), coast live oak woodland associated with stream (3:1), and non-vegetated ephemeral channel (3:1). Impacts to coastal sage–chaparral scrub would be met at

a 2 to 1 ratio requiring 6.6 acres of mitigation. The mitigation requirement would be met through a combination of on-site preservation within the Biological Open Space, acquisition of Captains Associate's Parcel, and a coastal sage scrub/grassland mosaic restoration on site through implementation of a Revegetation Plan, in accordance with the Upland and Wetland Conceptual Revegetation Plan. Impacts to southern mixed chaparral would be met at a 0.5 to 1 ratio requiring 0.1 acre of mitigation that would be completed through southern mixed chaparral being preserved within the Biological Open Space. Impacts to NNG would be met at a 0.5 to 1 ratio requiring 0.8 acre of mitigation that would be completed through NNG being preserved within the Biological Open Space. Impacts to coast live oak woodland would be met at a 3 to 1 ratio requiring 0.9 acre of mitigation. The mitigation requirement would be met through implementation of a Revegetation Plan in accordance with the Upland and Wetland Conceptual Revegetation Plan. Impacts to 0.1 acre of coast live oak woodland associated with stream, a wetland community would be met through implementation of a Revegetation Plan at a 3 to 1 ratio requiring 0.3 acre of a combination of creation and restoration of wetland communities within the Biological Open Space. Impacts to 0.5 acre of non-vegetated channel, a wetland community, would be met through implementation of a Revegetation Plan at a 3 to 1 ratio requiring 1.5 acres of a combination of creation and restoration of wetland communities within the Biological Open Space. The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 SAA. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies. This would reduce project impacts to sensitive vegetation communities to less than significant.

Off-Site Wastewater Upgrade Near Twin Oaks Valley Road

Impacts to 0.1 acre of disturbed southern willow scrub, a wetland community, would be met at a 3 to 1 ratio through implementation of a Revegetation Plan requiring 0.3 acre of a combination of creation and restoration of wetland communities within the Biological Open Space. The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 SAA. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies. This would reduce project impacts to sensitive vegetation communities to less than significant.

Table 11 provides a summary of the proposed impacts, mitigation ratios, and mitigation acreages for the impacts associated with proposed project improvements identified in this memorandum.

Table 11
Recommended Mitigation for Project Impacts
to Sensitive Vegetation Communities

Vegetation Type	Direct Impacts (Acres)	Mitigation	
		Ratio	Acres
Diegan coastal sage scrub	1.7	2:1	3.4
Disturbed coastal sage–chaparral Scrub	3.3	2:1	6.6
Southern mixed chaparral - Granitic	5.3	0.5:1	2.7
Southern mixed chaparral - Mafic	3.2	3:1	9.6
Non-native grassland	2.0	0.5:1	1.0
Southern willow scrub	0.2	3:1	0.6
Coast live oak woodland	0.3	3:1	0.9
Coast live oak woodland associated with stream channel	0.1	3:1	0.3
Non-vegetated ephemeral channel	0.5	3:1	1.5
Total	16.6	—	—

Deer Springs Road GPA/CE improvements

The required mitigation ratios for the impacted vegetation communities include the following: coastal sage–chaparral scrub (2:1), granitic southern mixed chaparral (0.5:1), non-native grassland (0.5:1), coast live oak woodland (3:1), non-vegetated ephemeral channel (3:1). A portion of the following mitigation would be attributable to the project and has been included in the project impact analysis (two- to four-lanes). The future improvement to six lanes would be attributable to that future approval.

For the plan-to-ground scenario, impacts to coastal sage–chaparral scrub and disturbed coastal sage–chaparral scrub would be met at a 2 to 1 ratio requiring 7.0 acres of mitigation. Impacts to granitic southern mixed chaparral would be met at a 0.5 to 1 ratio requiring 2.7 acres of mitigation. Impacts to NNG would be met at a 0.5 to 1 ratio requiring 1.0 acre of mitigation. Impacts to coast live oak woodland would be met at a 3 to 1 ratio requiring 2.4 acres of mitigation. Impacts to 0.5 acre of non-vegetated ephemeral channel, a wetland community, would be met at a 3 to 1 ratio requiring 1.5 acres of a combination of creation and restoration of wetland communities. This would reduce impacts to sensitive vegetation communities to less than significant.

The applicable project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 SAA. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies.

For the plan-to-plan scenario, impacts to coastal sage–chaparral scrub and disturbed coastal sage–chaparral scrub would be met at a 2 to 1 ratio requiring 1.0 acre of mitigation with the future approval.

Impacts to NNG would be met at a 0.5 to 1 ratio requiring 0.1 acre of mitigation with the future approval. Impacts to coast live oak woodland would be met at a 3 to 1 ratio requiring 0.6 acre of mitigation with the future approval. Impacts to 0.1 acre of non-vegetated channel, a wetland community, would be met at a 3 to 1 ratio requiring 0.3 acre of a combination of creation and restoration of wetland communities with the future approval. The applicable grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 SAA. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies. This would reduce project impacts to sensitive vegetation communities to less than significant.

Special-Status Species

For each phase of grading, a biological survey for nesting bird species must be conducted within the proposed impact area approximately 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting special-status bird species, birds protected by the federal Migratory Bird Treaty Act, including raptor species. If any active nests are detected, the area will be flagged and mapped on the construction plans along with an appropriate buffer of up to 300 feet for tree-nesting raptors (e.g., red-tailed hawks and Cooper's hawks), as determined by the project biologist, and these areas will be avoided until the nesting cycle is complete.

Regulatory Compliance

The project includes a Resource Management Plan (RMP) that addresses all resources covered by the RPO and is included as the functional equivalent to the RPO. Through consolidating open space and management of RPO resources, the RMP provides for a more comprehensive approach to resource protection and management than would occur under the RPO.

As previously noted under impacts to riparian and sensitive natural communities, the project tentative maps and grading permits shall be conditioned to obtain the following permits for impacts to wetlands or waters (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Section 1600 SAA. Mitigation for impacts to wetlands would need to comply with requirements of the County as well as permitting agencies.

If you have any questions regarding this letter, please contact me by telephone at 760.479.4239 or by email at ahayworth@dudek.com.

Sincerely,

Anita Hayworth, Ph.D.
Senior Biologist/ Senior Project Manager
San Diego County-Approved Consultant

Att: Figures 1–8
Appendix A, Changes in Overall Project Vegetation Impacts Resulting from Additional Improvement Area Impacts

ACKNOWLEDGEMENTS

This report was prepared by Dudek biologist Anita Hayworth, Ph.D. Graphics and GIS analysis were provided by Lesley Terry.

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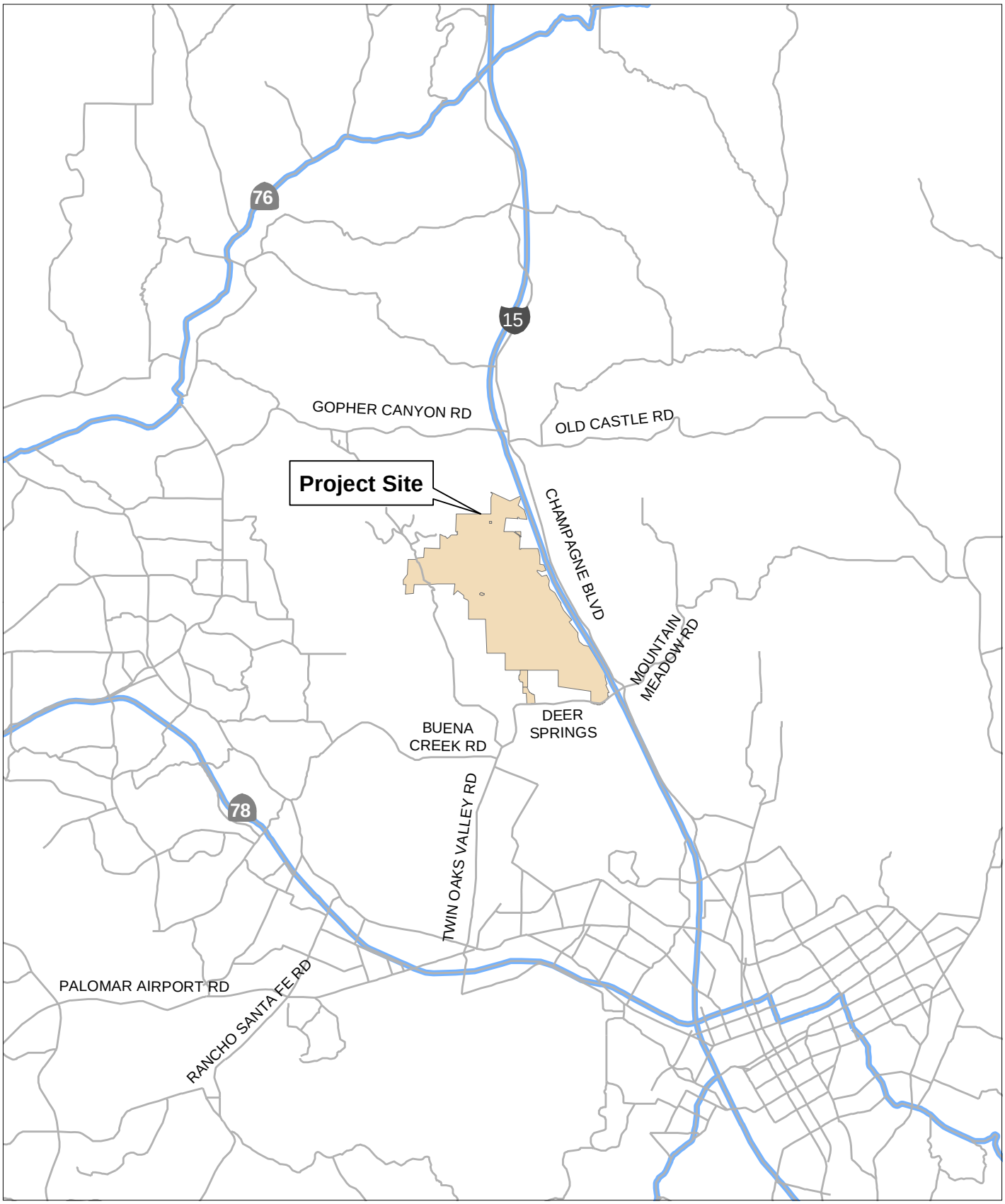

Regional Map

FIGURE 1

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

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Miles

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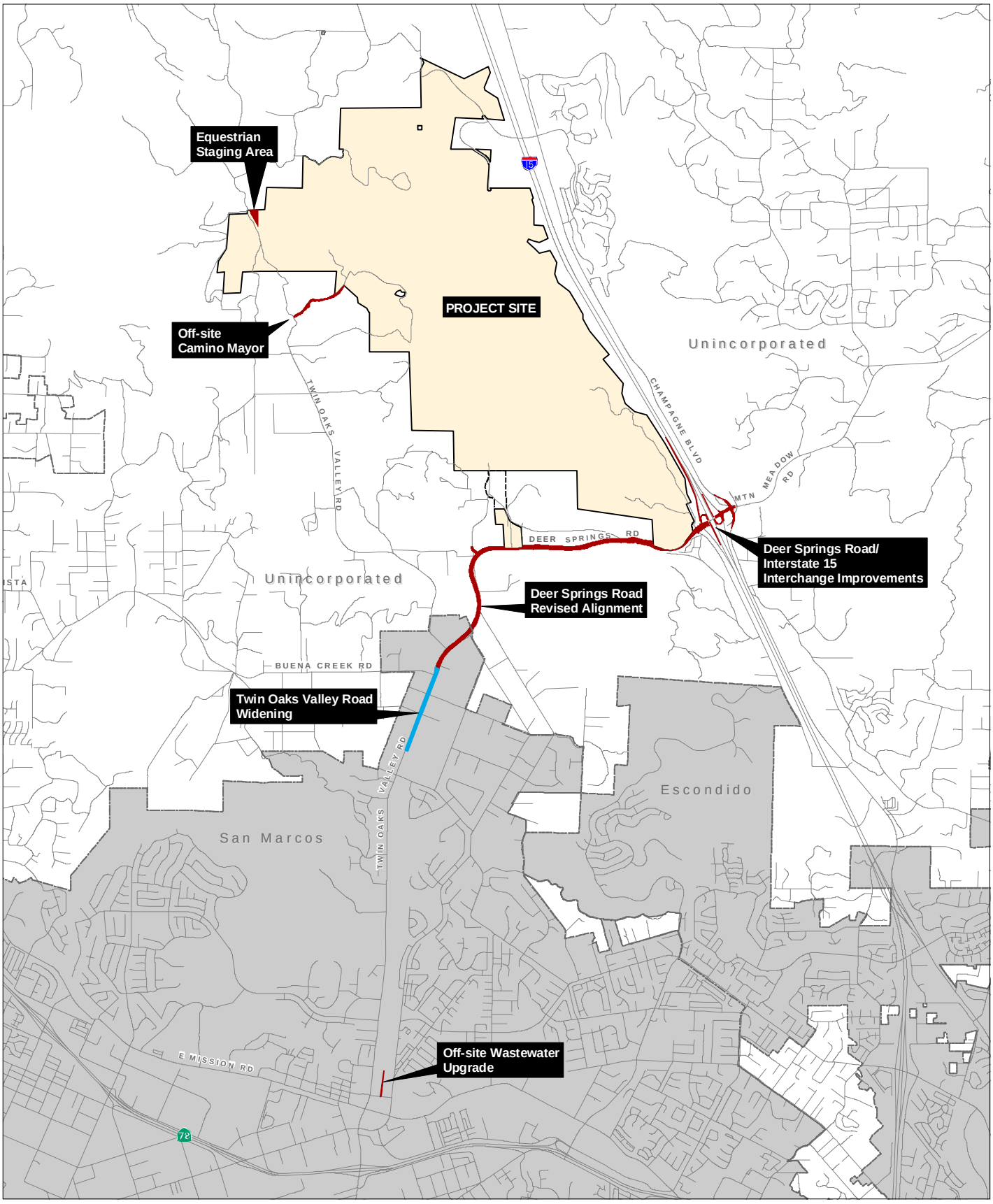

Vicinity Map

FIGURE 2

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

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Feet

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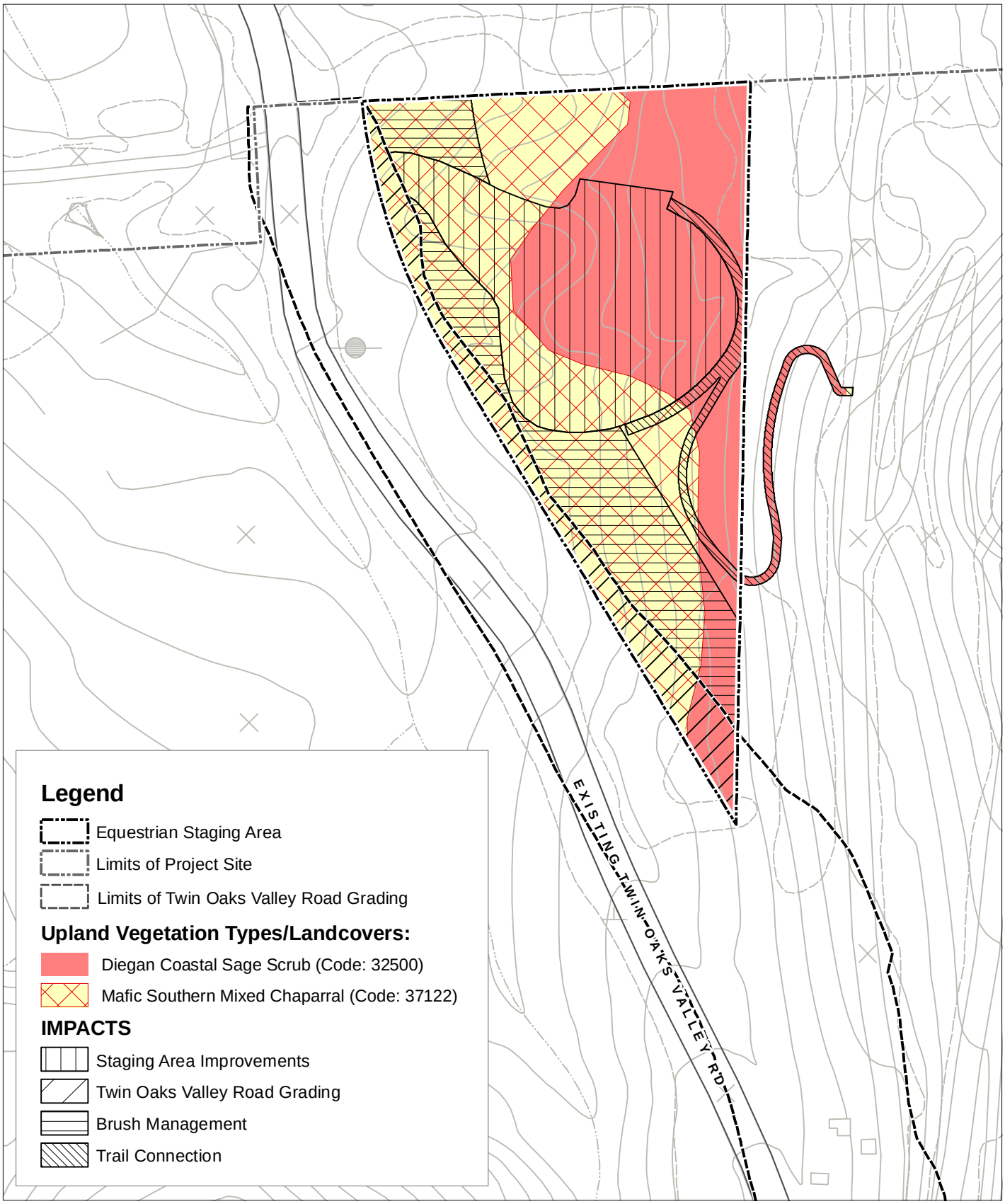

Equestrian Staging Area Vegetation Map

FIGURE 3

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

0 50 100 200
Feet

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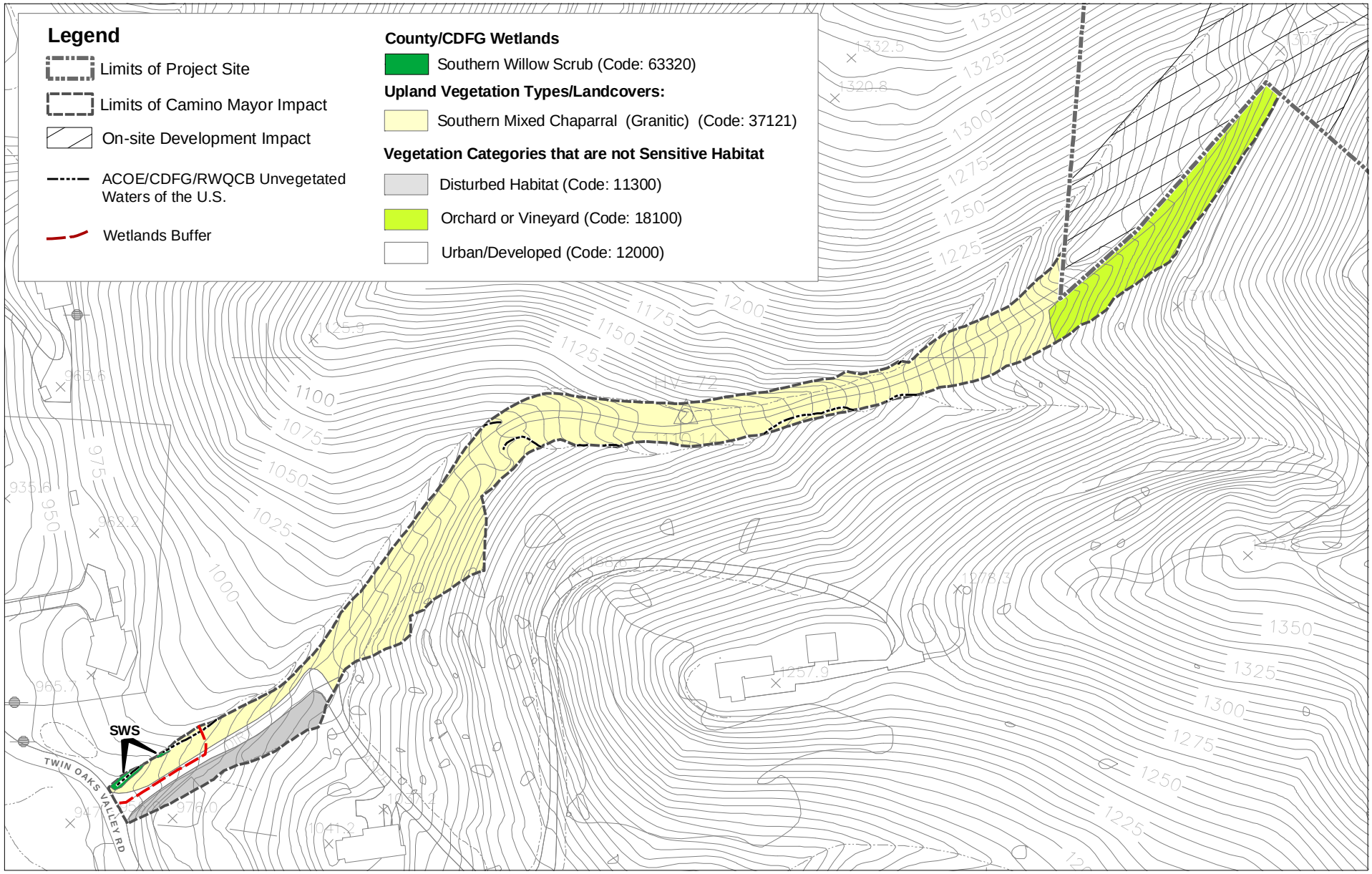

Camino Mayor Vegetation Map

FIGURE 4

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

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Feet

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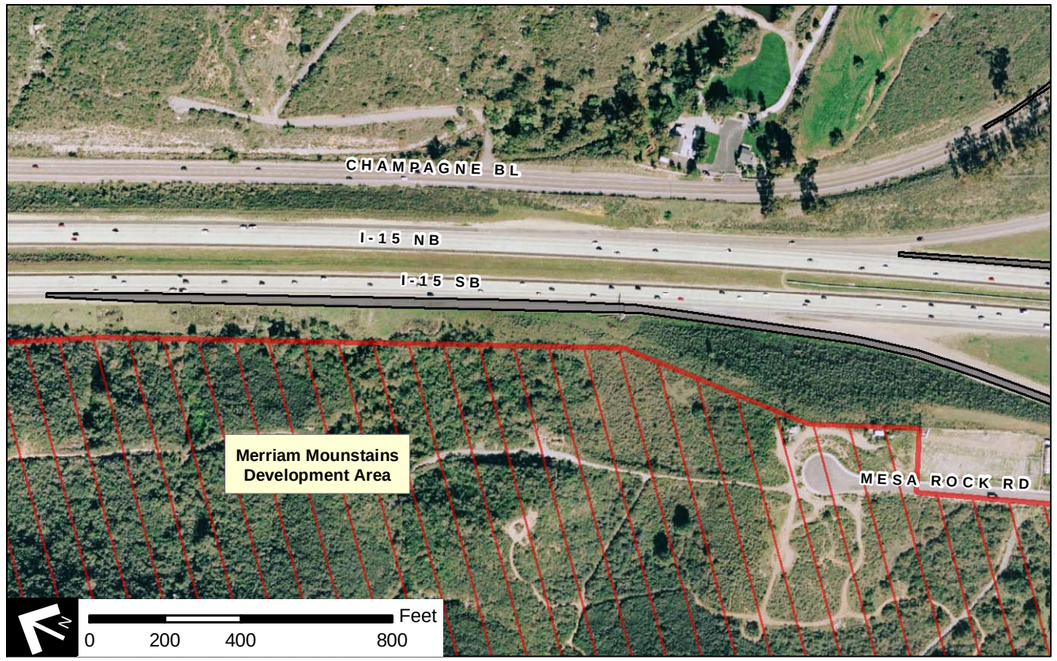

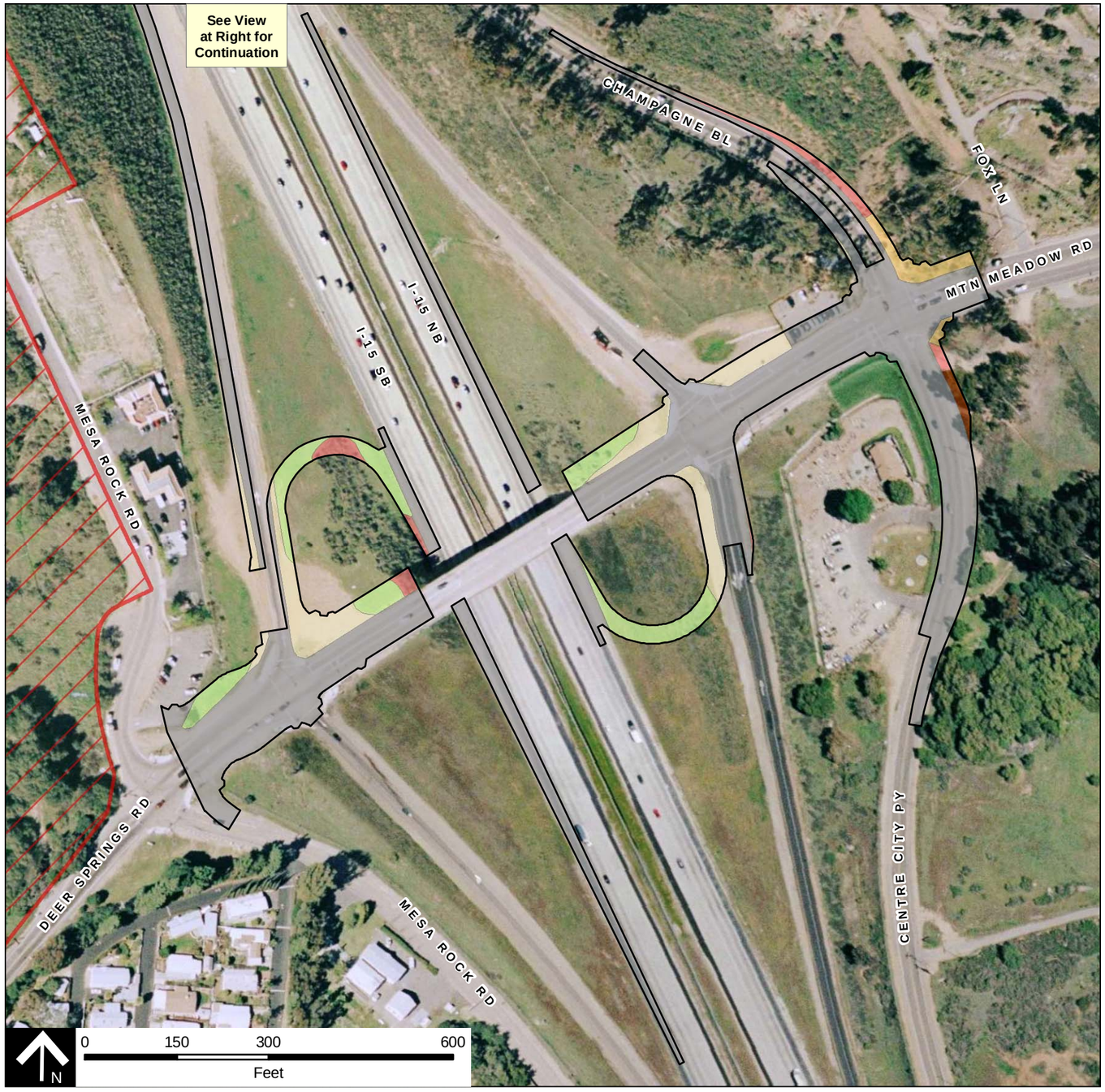

Legend

Limits of Merriam Mountains Development Area

Upland Vegetation Types/Landcovers:

- Coast Live Oak Woodland (Code: 71160)
- Diegan Coastal Sage Scrub (Code: 32500)
- Non-Native Grassland (Code: 42200)

Vegetation Categories that are not Sensitive Habitat

- Eucalyptus Woodland (Code: 11100)
- Disturbed Habitat (Code: 11300)
- Urban/Developed (Code: 12000)

Vegetation Source: Dudek, 2008
Aerial Source: Digital Globe, March 2007

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Deer Springs Road/Interstate 15 Interchange Improvements Vegetation Map

FIGURE 5

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

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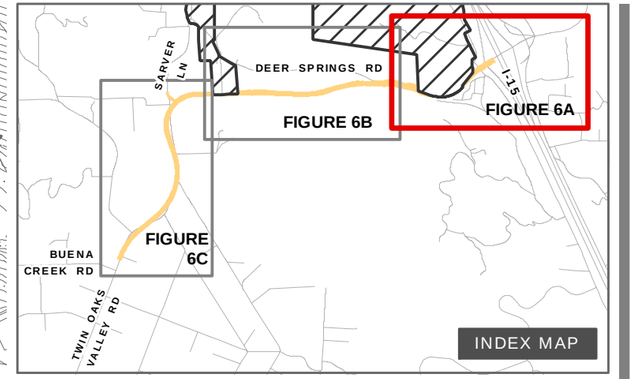

Legend

- Existing General Plan Circulation Element (4-Lane Limit of Impact)
- Limits of Onsite Project Boundary

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers (Holland Codes):

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
- Southern Mixed Chaparral (Granitic) (Code: 37121)
- Coastal Sage-Chaparral Scrub (Code: 37920)
- Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat

- Eucalyptus Woodland (Code: 11100)
- General Agriculture (Code: 18000)
- Orchard (Code: 18100)
- Disturbed Habitat (Code: 11300)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

Off-Site Deer Springs Road Revised Alignment Biological Resources Map

FIGURE 6A

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

0 150 300 600
Feet

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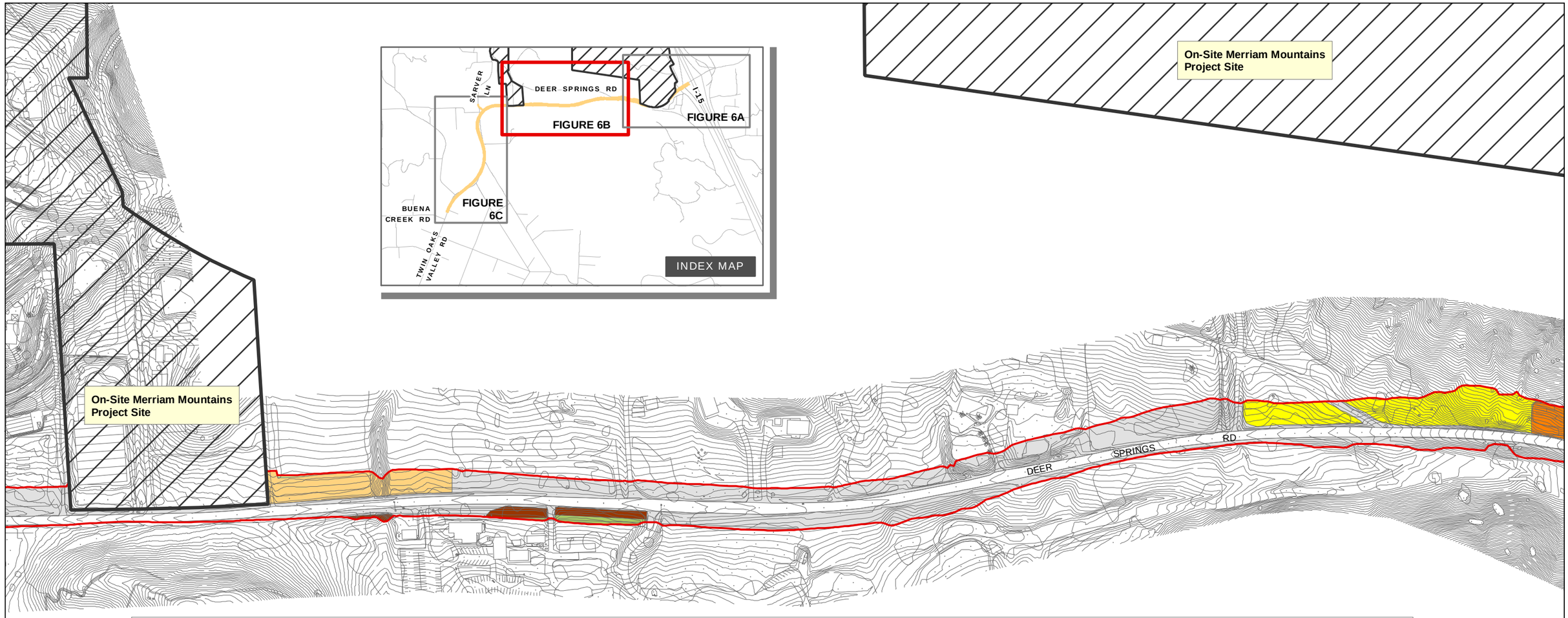

Legend

- Existing General Plan Circulation Element (4-Lane Limit of Impact)
- Limits of Onsite Project Boundary

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers (Holland Codes):

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
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- Coastal Sage-Chaparral Scrub (Code: 37920)
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Vegetation Categories that are not Sensitive Habitat

- Eucalyptus Woodland (Code: 11100)
- General Agriculture (Code: 18000)
- Orchard (Code: 18100)
- Disturbed Habitat (Code: 11300)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

Off-Site Deer Springs Road Revised Alignment Biological Resources Map

FIGURE 6B

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

0 150 300 600
Feet

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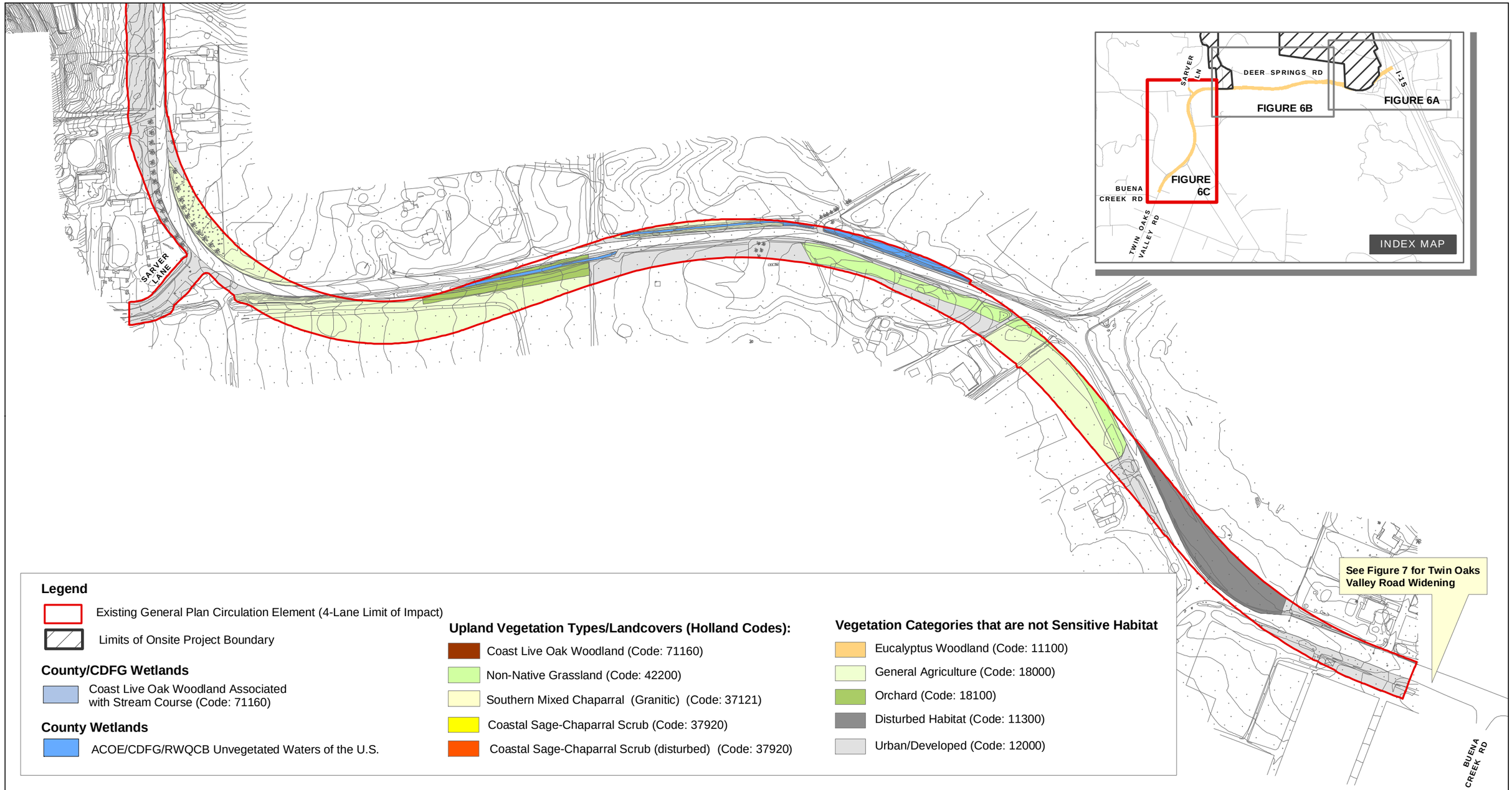

Legend

Existing General Plan Circulation Element (4-Lane Limit of Impact)

Limits of Onsite Project Boundary

County/CDFG Wetlands

Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers (Holland Codes):

Coast Live Oak Woodland (Code: 71160)

Non-Native Grassland (Code: 42200)

Southern Mixed Chaparral (Granitic) (Code: 37121)

Coastal Sage-Chaparral Scrub (Code: 37920)

Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat

Eucalyptus Woodland (Code: 11100)

General Agriculture (Code: 18000)

Orchard (Code: 18100)

Disturbed Habitat (Code: 11300)

Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

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Off-Site Deer Springs Road Revised Alignment Biological Resources Map

FIGURE 6C

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

0 150 300 600
Feet

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Twin Oaks Valley Road Widening Vegetation Map

FIGURE
7

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

0 110 220 440
Feet

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Off-site Wastewater Upgrade East of Twin Oaks Valley Road

FIGURE 8

MERRIAM MOUNTAINS SPECIFIC PLAN EIR
Biological Resources Technical Memorandum

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Feet

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APPENDIX A

Changes in Overall Project Vegetation Impacts Resulting from Additional Improvement Area Impacts

APPENDIX A
Changes in Overall Project Vegetation Impacts Resulting from Additional Improvement Area Impacts

Vegetation Type	Existing (on site)	Development Impact (on site)	Other Open Space (on site)	Access Road Impact (on site) [B]	Meadow Park Lane, Camino Mayor, Twin Oaks Frontage, and Equestrian Staging Area Impact (off site) [C]	Deer Springs Road Impact (off site) [D]	Wastewater improvements (off site)	Total Impact (on site and off site)	Mitigation Ratio	Required Mitigation Prior to Preservation on Site [E]	Preserved on Site	Remaining Mitigation Requirement [F]
Disturbed habitat	27.3	2.1	0.0	0.0	2.2	1.9	0.5	6.7	0	0.0	25.2	0.0
Urban/developed	13.0	12.5	0.6	0.0	1.3	28.6	0.0	43	0	0.0	0.0	0.0
Orchard	2.4	0.3	1.0	0.1	0.6	0.7	0.0	2.5	0	0.0	1.0	0.0
Intensive agriculture	4.9	3.6	1.3	0.0	0.0	4.7	0.0	9.6	0	0.0	0.0	0.0
Eucalyptus woodland	1.5	1.5	0.0	0.0	0.2	1.1	0.0	2.8	0	0.0	0.0	0.0
Diegan coastal sage scrub [A]	28.6	18.7	4	0.4	2.7	3.3	0.0	29.1	2	58.2	5.5	52.7
Granitic southern mixed chaparral	2,156.6	479	526.7	59.3	19.4	0.1	0.0	1,084.5	0.5	542.3	1,091.6	-549.4
Mafic S-mixed chaparral	57.4	0.0	0.0	0.0	3.2	0.0	0.0	3.2	3	9.6	57.4	—47.8
Non-native grassland	23.2	17.6	1.9	0.0	0.0	2.0	0.0	21.5	0.5	10.8	3.7	7.1
Freshwater marsh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	3	0.0	N/A	0.0
Southern coast live oak riparian forest	2.3	1.1	0.1	0.0	0.1	0.0	0.0	1.3	3	3.9	N/A	3.9
Sycamore alluvial woodland	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0	3	0.0	N/A	0.0
Southern willow scrub/mulefat scrub	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	3	0.9	N/A	0.9
Mulefat scrub	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.2	3	0.6	N/A	0.6
Southern willow scrub	2.6	0.2	0.1	0.0	0.0	0.0	0.1	0.4	3	1.2	N/A	1.2
Southern willow scrub/tamarisk scrub	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0	3	0.0	N/A	0.0

APPENDIX A (Continued)

Vegetation Type	Existing (on site)	Development Impact (on site)	Other Open Space (on site)	Access Road Impact (on site) [B]	Meadow Park Lane, Camino Mayor, Twin Oaks Frontage, and Equestrian Staging Area Impact (off site) [C]	Deer Springs Road Impact (off site)[D]	Wastewater improvements (off site)	Total Impact (on site and off site)	Mitigation Ratio	Required Mitigation Prior to Preservation on Site [E]	Preserved on Site	Remaining Mitigation Requirement [F]
Coast live oak woodland	4.2	1.0	1.1	0.2	0.0	0.4	0.0	2.7	3	8.1	1.9	6.2
Non-vegetated channel	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	1	0.5	0.0	0.5
Non-vegetated wetlands	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	3	0.3	N/A	0.3
TOTALS	2,327	538	537	60	26.4	43.3	0.6	1,205.3	N/A	N/A	1,192	
					[73 ac total off site]							

[A] Includes Coast Sage Scrub–Chaparral Scrub and Disturbed CSS–CS

[B] Includes Lawrence Welk Court and Camino Mayor

[C] Includes off-site sewer easement and off-site fuel modification along Camino Mayor

[D] Includes improvements at the I-15/Deer Springs Road interchange (0.2 acre DCSS, 0.5 acre NNG, 0.6 DH, 0.1 EUC, 6.0 Urban

[E] See Jurisdictional Impact Table for Additional Details

[F] Negative numbers mean no off-site mitigation necessary